

REMARKS/ARGUMENTS

Favorable reconsideration of this application, in view of the above amendments and in light of the following discussion, is respectfully requested.

Claims 38-48, 50-75, and 77 are pending. In the present amendment, Claims 38, 43-46, 51-53, 57, 61, 62, 65, 66, 71, 74, and 75 are currently amended. Support for the present amendment can be found in Figures 6-16 and their corresponding description. Thus, it is respectfully submitted that no new matter is added.

In the outstanding Office Action, Claims 38-48, 50-75, and 77 were rejected under 35 U.S.C. § 103(a) as unpatentable over “A Case Study in Embedded Systems Design: An Engine Control Unit” by Cuatto et al. (hereinafter “Cuatto”) in view of “Polis - A design environment for control-dominated embedded systems version 0.4” (hereinafter “Polis”).

Initially, Applicants would like to thank Examiner Patel for the courtesies extended to Applicants’ representative, Colin Harris, during the interview held on May 6, 2010. The present amendment contains claim amendments and arguments consistent with those presented during the interview

Turning now to the rejection under 35 U.S.C. § 103(a), Applicants respectfully request reconsideration of this rejection and traverse this rejection, as discussed below.

Claim 38 recites a method for designing an architecture and specifications of a hardware and software system of a product implemented by an electrical architecture designing device. The method comprises “defining services in a level of a hierarchical list on a display of the electrical architecture designing device, each of the services being a function that can be performed by the product for a user of the product.” Accordingly, as can be seen in the exemplary embodiment shown in Figure 6 in which the product is vehicle Z23, the services defined are an openings service, an air-conditioning service, and a brake service. These services are defined in a hierarchical list on the left side of the display.

Claim 38 also recites “defining, for each one of the services, at least one use case, which is a context or situation that the system is in, as a lower level in a hierarchical list on display.” Referring again to the exemplary embodiments shown in Figure 6, one of the use cases for the openings service is that the user opens the trunk. This is shown as a lower level in the hierarchical list on the left side of the display.

The method further recites “associating, in the electrical architecture designing device, each use case with a user request, and an initial state in a final state of the system, and, when selected, the use case and the associated user request, initial state, and final state are displayed with the hierarchical list on the display.” As can be seen in Figure 6, when the use case of a user open truck is selected in the hierarchical list, the display includes on a right side the use case, and the associated user request, initial state, and final state of the system.

Amended Claim 38 also recites “specifying the system architecture by defining characteristics of electronic control units and networks to perform the response for the system when the system is in said each state.” Accordingly, Claim 38 recites a method by which a user can design an architecture and specifications of a hardware and software system of a product with a device that allows a user to define services, and to further define the use cases with each service. Additionally, by selecting these services in the hierarchical list, the user can see both the elementary operations that are performed to provide the service, and the mapping of the calculating units, etc., that are used to perform the elementary operations.

It is respectfully submitted that the cited references do not disclose or suggest every feature recited in independent Claim 1.

To reject each of the pending claims, the Office Action relies on the combination of Cuatto in view of Polis. Cuatto describes a case study in designing an engine control unit (ECU) with simulations performed according to Polis. Cuatto also describes using the PTOLEMY discrete event simulation environment to run simulations of the ECU design.

In Sections 5a and 5b on page 3 of the Office Action, Cuatto is relied on as describing defining services and use cases associated with the services. However, as can be seen above, Claim 38 is hereby amended to clarify that each of the services is a function that can be performed by the product associated with the hardware and software system for a user of the product. Accordingly, as the ECU described in Cuatto is intended to be used in a vehicle, then the service as defined in Claim 38 would be a function performed by the vehicle for a user of the vehicle. Additionally, the use case would be a context or situation that the ECU was in when performing one of the services. Applicants respectfully submit that the cited combination does not disclose or suggest the services and use cases as recited in amended Claim 38.

In Figure 2 on page 77, Cuatto shows a plurality of functional models, such as throttle acquisition, pressure acquisition, and temperature acquisition. Accordingly, even assuming that one of these functional models, such as temperature acquisition, was a use case for a service, such as air-conditioning, Cuatto does not disclose or suggest listing these services in a hierarchical list.

Further, even when combined with Polis, the cited references do not disclose or suggest that when a use case is selected, the use case, the associated user request, initial state, and final state are displayed with the hierarchical list on the display.

Accordingly, Cuatto as modified by Polis does not disclose or suggest every feature recited in independent Claim 38. Instead, Cuatto as modified by Polis is better described as a system for modeling the hardware and software, and performing simulations with the hardware and software. Thus, these references do not provide a useful tool that can tie in this hardware and software modeling with descriptions of the features (such as services, use cases, user requests, initial and final states, and elementary operations) indicating how the

product performs, and connect these descriptions with the actual software and hardware that implement them.

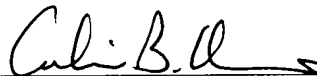
Therefore, it is respectfully requested that the rejection of Claim 38, and all claims dependent thereon, as unpatentable over Cuatto in view of Polis be withdrawn.

Further, independent Claims 44 and 74, while drawn to alternative embodiments, recite features similar to those discussed above with respect to independent Claim 38. Thus, it is also respectfully requested that the rejection of Claims 44 and 74, and all claims dependent thereon, as unpatentable over Cuatto in view of Polis be withdrawn.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application and the present application is believed to be in condition for formal allowance. A Notice of Allowance is earnestly solicited.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, L.L.P.



Philippe J.C. Signore, Ph.D.
Attorney of Record
Registration No. 43,922

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413-2220
(OSMMN 08/07)

Colin B. Harris
Registration No. 58,969